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AUTHOR	Brown, Richard H.; Kapes, Jerome T.
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ABSTRACT

This document reports one of the studies conducted as part of the longitudinal Vocational Development Study (VDS) project started in Altoona, Pennsylvania, in 1968. The main goals of the project are to conduct studies involving the evaluation of vocational programs, the validation guidance instruments, and the investigation of vocational development theories as they apply to today's youth. This particular study is concerned with the stability of occupational aspirations during the high school years. Occupational aspirations were divided into idealistic and realistic, so that changes in level of aspiration over time as well as difference in level could be compared. Findings showed no change in level of idealistic occupational aspiration over time, a significant downward change in the mean level of realistic occupational aspiration, a significant and increasingly large difference between the idealistic and realistic levels, and a steady divergence between idealistic and realistic levels. The implications of these findings for high school curriculum planning, occupational guidance, training, and counseling are discussed. (SA)

THE PENNSYLVANIA STATE UNIVERSITY

DEPARTMENT OF VOCATIONAL EDUCATION

A LONGITUDINAL STUDY OF THE LEVEL OF OCCUPATIONAL ASPIRATIONS OF YOUTH OVER THE HIGH SCHOOL YEARS

RICHARD H. BROWN

JEROME T. KAPES

Pennsylvania Department of Education
Bureau of Vocational, Technical and Continuing Education
Research Coordinating Unit
(Project No. 19-3001)

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Richard H. Brown

Jerome T. Kapes

The Pennsylvania State University
University Park, Pennsylvania

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PREFACE

The research reported in this monograph is one of the many studies which have been conducted as a part of the longitudinal Vocational Development Study (VDS) project. The VDS project has been underway in the Department of Vocational Education at Penn State since the Fall of 1968 and is being supported by Pennsylvania's Research Coordinating Unit (RCU) in Vocational Education. The main goals of the project are to conduct studies involving the evaluation of vocational programs, the validation of vocational guidance instruments, and the investigation of vocational development theories as they apply to today's youth.

In undertaking this particular study, the authors have attempted to uncover evidence concerning the stability of occupational aspirations over the high school years, which has implications for all three of the project's goals. Although the hypotheses investigated reflect rather basic developmental concerns, the findings have been interpreted in light of the above stated goals. The blue page capsule is provided for those who wish a quick overview of the findings and implications of the study. It is hoped that school practitioners as well as vocational development researchers will find some or all aspects of this monograph to contain useful information.

Jerome T. Kapes, Assistant Professor
Graduate Studies and Research
Department of Vocational Education
VDS Project Director

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VDS CAPSULE

It is the purpose of this capsule to provide a brief summary of the findings and implications of this study. Educators, researchers, and other interested parties hopefully will be able to determine through this capsule whether or not the full report warrants their investigation. The study is concerned with the occupational aspirations of adolescents during the time span from the end of ninth grade through the end of twelfth grade. For the purpose of this study two types of occupational aspirations were identified: those that were described as idealistic, and those that were described as realistic. Since the design for this study was longitudinal, it was possible to determine the change in level of occupational aspiration over time as well as the difference in level of occupational aspiration by comparing idealistic and realistic responses. The following sections include a brief description of the major findings of the study as well as the implications which may be drawn from these findings.

Findings

1. On the average, students do not change their level of idealistic occupational aspiration between the end of ninth, tenth and twelfth grades.
2. It appears that there is a significant change (downward) in the mean level of realistic occupational aspiration for students between the end of ninth, tenth, and twelfth grades.
3. For each time period, that is, near the end of ninth, tenth, and twelfth grades, there is a significant difference between the mean

idealistic occupational aspiration level and the mean realistic occupational aspiration level. This difference becomes increasingly greater as the students move from ninth to twelfth grade.

4. Overall, the study indicates a changing relationship between students' idealistic and realistic occupational choices as they progress through high school. This change is one of steady divergence, with the idealistic choice remaining relatively constant and the realistic choice changing steadily downward on the level continuum.

5. The construct of Level of Occupational Aspiration (LOA) as measured by Roe's classification scheme and the suggestion of Miller and Haller that occupational preferences be classified as idealistic versus realistic appear to be valid as supported by the results of this study.

Implications

1. The theories of Ginzberg et al. and of Super as well as the construct of Vocational Maturity appears to be supported by the findings of this study. The fact that a realistic choice does increasingly differ from an idealistic choice lends credence to the idea that developmental tasks dealing with reality are being accomplished during the high school years. The downward trend in level for the realistic choice is consistent with increased vocational maturity if one accepts the notion that the initial choices were too high and, therefore, unrealistic and immature.

2. Since the level of occupational aspiration, as it is realistically stated, changes significantly (downward) over the high school years, it is reasonable to assume that most students should not be forced to make specific occupational choices during the ninth grade. Commensurate with

this assumption; therefore, the high school curriculum should be constructed to provide for later decisions. This may mean, as Super has suggested, that the early high school years should focus on exploratory experiences. It may also mean that specific occupational training should be concentrated in post-secondary community college type institutions.

3. Given the finding that realistic occupational aspirations tend to move downward in level and diverge from idealistic aspirations over the high school years, perhaps the schools should play a greater role in providing reality testing experiences. These experiences could possibly take the form of cooperative education during the high school years.

4. Whenever the question of occupational aspiration is asked (whether it be for research purposes or for counseling purposes) it appears to be useful to differentiate between idealistic and realistic choices. For counseling purposes, the very fact that the counselee is forced to contemplate the difference between the two may be helpful to him in clarifying his occupational goals in terms of reality.

I

ORIGIN OF THE STUDY

Background of the Problem

One of the basic principles of our democratic society is that every individual should have the opportunity to an education corresponding to his personal abilities and ambitions. It seems to follow logically that, in order to be beneficial both to the individual and to society, this education should provide an understanding of the principles and operation of the society and promote competence which will lead to gainful employment. Only in this way, can education make the individual a contributing member of today's complex society.

Here in America, free public education is the vehicle for providing all people with free and equal access to knowledge. In spite of the recognition that no individual should be denied this free and equal access, education has always been considered something of a privilege. It has been the responsibility of the individual to see that he took advantage of the opportunity when he had it, and to see that learning actually took place. The schools have not been held accountable for the effectiveness of education in preparing youth adequately for adult rights and responsibilities.

Evans (1971) comments on the common curriculum that has developed in America based entirely on success in further schooling. Its content is based entirely on the demands of the next level of education, "school for schoolings sake." According to Evans, elementary and secondary schools have almost completely ignored praxiology which is based on

descriptive and valuational knowledge, but goes beyond them to search for efficiency and rationality in practice. Evans suggests that general and specialized education reinforce each other and should be taught concurrently during the latter part of an individual's schooling, and should prepare the student to enter the real world of work.

As specialized knowledge has become more and more a requisite for employment, education has been put under increasing pressure to be a more effective link between man and knowledge, and specifically between man and that knowledge needed for participation in the nation's economic life.

On July 15, 1969, the National Advisory Council on Vocational Education in the first report to the Secretary of Health, Education, and Welfare for transmittal to Congress stated:

> Racial unrest, violence and the unemployment of youth have their roots in inadequate education. Each year the ranks of the school dropouts increase by three-quarters of a million young men and women. They enter the job market without the skills and attitudes employers require. They and the millions of others who are underemployed--among these the students who are graduates of our high schools but who are inadequately prepared for anything--are tragic evidence of the present inadequacy of our educational system (p. 1).

The Council goes on to report that the fundamental cause of the problem is a national attitude that says that vocational education is less than desirable at least for "our children." Equally guilty is a very prevalent national yearning for educational prestige and the idea that the only "good" education is the one capped by four years of college. Consequently, school districts concentrate on college preparatory and general programs, and students continue to make inappropriate career and educational choices. The result is that 60 percent of our

young people, for whom the high school is still the only transition to the world of work, are grossly neglected.

According to the Manpower Report of the President (1972), ". . . the current preoccupation with a college education involves the danger of limiting the flow of qualified young people into skilled occupations with a need for more new entrants" (p. 115). The report goes on to state that counselors must make sure that students are informed of the wide variety of skilled and highly paid jobs which can be entered without college training, and not merely of the range of potential opportunities in higher education.

Evans (1971) comments on the present economic situation in which the increasing shortages of skilled workers and the increasing surpluses of college graduates have caused the normal economic forces of supply and demand to invert the pay structures for these two fields. People working in jobs for which little or no occupational training has been provided are being paid higher wages than many professionals who have received four to six years of college training provided by society.

Today, there are already more college graduates than can be employed as professionals, and the number of jobs requiring a college education, while growing, is increasing far less rapidly than the number demanding a technical skill. At the same time, there is a shortage of skilled workers in almost every occupation requiring some technical training, but less than a baccalaureate degree for entrance.

Unfortunately, our schools now teach that labor, other than academic labor, is not dignified. They no longer exemplify the ideal man of the "protestant ethic:" a man who works diligently, enjoys his work and does

not let unrelated activities distract him from it; and who saves his money and goods for tomorrow, even if it means self-denial today.

Throughout the nation, people are questioning the logic and relevance of what is being taught their youngsters, particularly when considered in the light of the sophisticated, complex, and rapidly changing work situations they will face upon graduation from high school or from college.

Keniston (1960) in his book, The Uncommitted: Alienated Youth in American Society, comments on the increasingly heavy burden facing youth who must make commitments in the light of an enormous variety of socially available options. The author states:

> Consider the commitments that the average high school student must make in our fragmented society. For one, he must choose a career. From among literally tens of thousands of job possibilities, he must select the one which seems best suited for his talents, motives, needs, feelings, values and background. And must inevitably make this choice in relative ignorance of what most of these careers involve, yet fully aware that what they involve today may be quite different from what they will involve tomorrow (p. 261).

Sidney P. Marland, U.S. Commissioner of Education, in his speech before the National Association of Secondary School Principals in Houston, Texas, on January 23, 1971, indicated his concern for the nation's young people and their opportunity to prepare realistically for today's world of work. He asked:

> Shall we persevere in the traditional practices that are obviously not properly equipping fully half or more of our young people or shall we immediately undertake the reformation of our entire secondary education in order to position it properly for maximum contribution to our individual and national life?
>
> All education is career education or should be. Every young person in school belongs to that category at some point, whether engaged in preparing to be a surgeon, a bricklayer, a mother or a secretary.

> I propose that a universal goal of American education, starting now, be this: that every young person completing our school program at grade 12 be ready to enter higher education or to enter useful and rewarding employment (pp. 5-6).

Thus we see that to make public education become relevant according to today's needs and the needs of the future, the entire school program must be restructured; and it becomes increasingly evident that public education should be focused around the theme of career development. Career education begins with an awareness of the world of work, an awareness of self, and how oneself fits into the world of work.

Career education and its ultimate value will not, however, be self-propelling. Much political and legislative action will be needed to make it a reality. If career education works as it should, we will gain not only career awareness, exploration, and eventual preparation for careers, but, in addition, the relevance and intelligibility long needed by all of education. Students will begin to see some logic to the courses which they study because the content of each will be related to that of the others, to everyday life, and to the student's goals, objectives and aspirations.

Occupational Choices of High School Students

As has been pointed out in the previous section, society, in attempting to develop its human resources and to provide for their effective distribution, has a tremendous influence upon the occupational and educational choices of youth. Society has, therefore, a tremendous responsibility to use this influence positively, and to create the necessary environment and information favorable to realistic and intelligent decision-making. Attempts to study and improve societies influences

in this area have lead to the formulation of various theories about vocational choices.

Ginzberg (1952) stated three basic elements in his general theory on occupational choice: occupational choice is a process; the process is largely irreversible; compromise is an essential aspect of every choice. Concerning the first element, it can be said that the process begins at the birth of the individual and may remain open until death. Ginzberg began the study of the process in individuals at about the age of eleven, which appeared to be the first time that a young person recognizes that he or she will eventually have to do something about choosing future work. He analyzed the process of occupational decision-making in terms of three periods: fantasy choices (before age 11); tentative choices (between age 11 and 17); and realistic choices (between age 17 and young adulthood when a person finally determines his choice). According to Ginzberg, the child in the fantasy period believes that he can become whatever he wants to become. He makes an arbitrary translation of his impulses and needs into an occupational choice. During the tentative period, his translation is almost exclusively in terms of such subjective factors as his interests, capacities, and values. Adolescents consider their choices tentative because they sense that they have not effectively incorporated the reality factors into their considerations. They are able to do this during the realistic period when they seek to work out a compromise between their interests, capacities and values, and the opportunities and limitations of the environment.

Super (1957) to further specify the process of vocational development, extended the analysis of life stages with reference to vocational

behavior. He proposed that the two major stages in the vocationally significant life periods have several substages. In the exploratory stage the substages are: the tentative period (age 14 to 17) during which time the adolescent considers his needs, interests, capacities, values, and opportunities; the transition period (age 18 to 21) when considerations of reality are given more weight; and finally the trial period (age 22 to 24) when an appropriate work field is located and tried. Following these periods comes the establishment stage (age 25-44) when the individual seeks a permanent place in his chosen field. The substages consist of the committed trial period, during which several changes may be made; and the stabilization period when a definite career pattern becomes clear. These stages, while not precisely the same as those of the Ginzberg theory, show some general similarity to it. Both Ginzberg and Super believed that a reality factor and consideration of self was developing and entering into the occupational choices of 14 and 15 year old adolescents.

Adolescence and the high school years have received considerable attention in the literature on vocational development and behavior. Super and Overstreet (1960) reporting the findings of a study of the vocational maturity of ninth grade boys based on the Career Patterns Study data stated:

> While it is true, as shown in other studies, that mental ability can be sufficiently well appraised by this time to provide a good basis for estimating the amount and level of education which is likely to be appropriate for an individual, the data of this study suggest that a substantial number of boys are not yet ready, in the ninth grade, to decide on direction of endeavor, or, specifically on a future occupation. This early adolescent stage is one, not of making and implementing a vocational choice, but rather of developing planfulness, of preparing to make a series of educational and occupational decisions (p. 152).

Super (1961) postulated that persons in the 14 to 15 year old range were just beginning to consider abilities, job requirements, needs, interests, capacities, values, and opportunities. He raised questions concerning the significance of the consistency and wisdom of realism of vocational preferences among ninth grade boys, and the use of measures of these as criteria of the effectiveness of, or the need for, vocational guidance.

Although these studies provide evidence that ninth grade youth do not have the ability to choose a high school curriculum or program of study which will contribute toward their adult occupational goals, it is common practice to require some very specific educational decisions concerning preparation for a career.

Because a large part of a youth's future happiness is predicated upon job satisfaction, it is essential that his occupational choice and entry into an occupation be as suitable as possible. One attempt at the classification of occupations into groups and levels to assist the student in his occupational choice and to form realistic goals, objectives and aspirations was made by Roe (1956). Roe proposed that horizontal groupings can be made on the basis of the primary focus of activity. The focus of an occupation may be upon personal interactions, the handling or processing of natural resources, the development of knowledge, or similar factors.

The second, or vertical, dimension is based upon level of function, which includes the degree of responsibility, capacity or skill. When these three factors do not correlate with one another, Roe has given basic emphasis to the level of responsibility required in the occupation. Six levels of function have been established:

1. Professional and managerial (1) independent responsibility.
2. Professional and managerial (2) other
3. Semiprofessional and small business
4. Skilled
5. Semiskilled
6. Unskilled

The horizontal dimension is useful in stressing the broad area into which occupations can be divided. While primary focus is the classification factor used for this dimension, the term includes several characteristics of what people do, how they do it, where they do it and in general, the field in which they work. An obviously related factor in considering this dimension is an individual's interests, or the kinds of things he likes and prefers.

The vertical dimension encourages consideration of such factors as ability, educational preparation, degree of responsibility and related items. This is extremely helpful in pointing out to a student a long list of occupational fields in an area at the level which seems accessible to him.

The Level of Occupational Aspirations (LOA) has been recognized as a factor of some significance in the social mobility of youth. Miller and Haller (1964) define LOA as the area (a point or limited range of points) of the occupational prestige hierarchy which an individual views as a goal. The range of an individual's LOA is bounded in two general ways: by what he views as realistically probably versus idealistically desirable for him; and by the goals which he has for the near versus the distant future.

Flores (1966) reports that the LOA is possibly one of the first stable and realistic occupational considerations formed in young people. He suggests that counselors working with persons in this 14 and over age group could contribute to the group's occupational development by helping them acknowledge their Level of Occupational Aspirations and to consider specific occupations in light of these LOA's.

Flores and Olsen (1967), using Miller and Haller's LOA concept, made a study to investigate the Level of Occupational Aspirations in eighth graders in an effort to determine if they are ready to choose a high school curriculum which will contribute to their adult occupational goals. As a result of their study they concluded that the LOA of eighth grade males, since it closely resembled that of eleventh and twelfth grade males, is probably sufficiently realistic and well formed to allow eighth grade males to make valid choices of secondary school courses and curriculum.

Longitudinal and more extensive studies tracing the development of LOA and the degree to which it is influenced by different variables during the adolescent years would yield more information on the development of LOA, and would yield results in which more confidence could be placed concerning the question of how greatly the LOA of individual young people changes during adolescence.

Statement of the Problem

In the Fall of 1968, the Department of Vocational Education at The Pennsylvania State University initiated the Vocational Development Study (VDS), a ten year longitudinal investigation to identify the effects of

the senior high school experience upon the development of youth (Impellitteri and Kapes, 1971). As a result of this study, data have been collected relating to the Level of Occupational Aspirations, both idealistic and realistic, of a group of high school boys and girls. The students' idealistic and realistic job preferences were obtained and coded according to Roe's classification system of level. This information was obtained at three separate times during the students' high school experience, near the completion of each of the ninth, tenth and twelfth grades.

Based on the rationale developed in the previous sections, the authors might reasonably expect a gradual change in the group's Level of Occupational Aspirations during this period of their vocational development, since they pass from what both Super (1957) and Ginzberg (1952) have theorized as the period of tentative choice into the period termed by Ginzberg as realistic and by Super as one of transition. Both theories indicate that this change brings forth a consideration of reality on the part of the student as he seeks to work out a compromise between his interests, capacities and values, and the opportunities and limitations of his environment.

The specific purposes of this study were: (1) to determine the mean level of occupational aspirations, both idealistic and realistic, for the above mentioned sample group of high school students as measured in the ninth, tenth and twelfth grades, and as coded according to Roe's six levels of occupational function; (2) to discover if the mean level of occupational aspirations, both idealistic and realistic, is the same for the ninth, tenth and twelfth grades, or if any changes take place;

and, (3) to discover what differences, if any, there are between the mean idealistic occupational aspiration level and the mean realistic occupational aspiration level at each of the three time periods. These research questions are formally stated below:

1. Is the mean idealistic occupational aspiration at the same level when measured near the completion of the ninth, tenth and twelfth grades respectively?

   Ho :$MI_9 = MI_{10} = MI_{12}$

2. Is the mean realistic occupational aspiration at the same level when measured near the completion of the ninth, tenth and twelfth grades respectively?

   Ho :$MR_9 = MR_{10} = MR_{12}$

3. Is the mean idealistic occupational aspiration at the same level as the mean realistic occupational aspiration when measured near the completion of the ninth, tenth and twelfth grades respectively?

   Ho :$MI_9 = MR_9$

   Ho :$MI_{10} = MR_{10}$

   Ho :$MI_{12} = MR_{12}$

Definition of Terms

To provide some clarification of the terms used in this study, the following definitions are included here.

Career: "Refers to the total pattern of jobs held during a worker's lifetime" (Baer and Roeber, 1964). Also, "the developmental process by which a person learns about the world of work; acquires work related values, skills, and habits; develops specific occupational interests and intentions; prepares for and seeks an entry occupation; and creates for

himself a long term work history involving a sequency of positions and altered responsibilities, terminating in retirement or death" (Cooley and Lohnes, 1968).

Idealistic Occupational Aspiration: The occupation which the individual views as idealistically desirable for him. An occupational aspiration based on "the psychological preferences or desires that the individual has regarding work statuses" (Kuvlesky and Bealer, 1966). Also, for the more specific purpose of this study, represents the student's response to the question, "If it were possible for you to enter any occupation, what occupation would you most like to enter?" This term is coded according to Roe's classification system of occupational level.

Level of Occupational Aspirations: The area on the occupational prestige hierarchy, according to Roe's classification system of occupational level, which an individual views as a goal, and which is bounded by what he views as idealistically desirable for him (his idealistic occupational aspiration) versus what he views as realistically probable for him (his realistic occupational aspiration).

Occupation: "Whatever an adult spends most of his time doing" (Roe, 1956). Also, "a group of similar jobs found in several establishments" (Shartle, 1959).

Occupational Level: One vertical dimension along which occupations have been classified according to level of function, which includes the degree of responsibility, capacity or skill. When these three factors do not correlate with one another basic emphasis is given to the level of responsibility required in the occupation (Roe, 1956). Six levels of function have been established by Roe as follows:

1. Professional and managerial (1) independent responsibility.
2. Professional and managerial (2) other
3. Semiprofessional and small business
4. Skilled
5. Semiskilled
6. Unskilled

Realistic Occupational Aspiration: The occupation which an individual views as realistically probable for him. An occupational aspiration based on "the individuals more or less accurate accessment of the external, limiting work environment, along with his abilities and values" (Kuvlesky and Bealer, 1966). Also, for the more specific purpose of this study, represents the student's response to the question, "In reality, what occupation do you expect to enter after you complete all the education you have planned?" This item is coded according to Roe's classification system of occupational level.

Vocational Development: ". . . an ongoing, continuous, generally irreversible, orderly, patterned, and dynamic process, which involves interaction between the individual's behavior repertoire and the demands made by society, that is, by the developmental tasks. Vocational development is essentially a process of compromise or synthesis" (Super, 1957). Also, Career Development: "those aspects of the continuous unbroken flow of a person's experience that are relevant to his fashioning of an identity at work" (Tiedeman and O'Hara, 1963). These two terms will be used interchangeably in this study.

Vocational Maturity: "Refers to the maturity of an individual's vocational behavior as indicated by the similarity between his behavior

and that of the oldest individuals in his vocational life stage" (Crites, 1961). Also, Super defines two measures of vocational maturity: "Vocational Maturity I focuses on life stages and is indicated by the actual life stage of an individual in relation to his expected life stage (based on his chronological age). Vocational Maturity II focuses on developmental tasks and is represented by the behavior of the individual in handling the developmental tasks with which he actually is coping (Super, 1957).

II

REVIEW OF RELATED LITERATURE

In order to identify other research studies and publications containing relevant information for this study, a review of the literature was made. The studies identified in this section were obtained from such sources as ERIC, other periodicals, books, dissertations and unpublished papers.

Schmidt and Rothney (1955), in a longitudinal study beginning in the 1948-1949 school year of 869 sophomores in four representative Wisconsin high schools, tested the consistency of vocational choice during high school sophomore, junior and senior years and found that only thirty-five percent of high school students were consistent in their vocational preferences over the three years of high school.

Nelson (1962) in a study that covered both elementary and secondary schools, concluded that the occupational elimination process starts early and that many attitudes are already established by the ninth grade. He felt that many occupations were rejected at an early age. In Nelson's view, all of this decision-making and choosing is going on with almost no effort to help children develop any objective understanding of the world of work while still in school.

Rice (1962), in the second phase of the "Aspiration Level Study" initiated at Florida State University in 1959, studied the educational and occupational aspirations of a sample of 282 high school students. Three aspiration groups were referred to as: educational aspirations, occupational interest, and occupational goal. The findings of this study

showed that over fifty percent of the students remained constant in their levels of aspiration within each of the three aspiration groups, and that most of these students expressed high level educational and occupational aspirations. The author also reported that the educational levels and the present occupational status of the mothers appear to be related to change in their sons' levels of educational aspirations and levels of occupational interest. The educational levels of the mothers appeared to be related also to changes in the educational aspiration levels of their daughters. These same characteristics in fathers were reported to be totally unrelated to changes in their sons' and daughters' educational and occupational aspiration levels. The influence of teachers was reported to be only slightly related to changes in females' and perhaps males' levels of educational aspirations, but teachers' influence did not appear to be related to changes in students' levels of occupational aspirations. The author concluded that those students whose levels of educational and occupational aspirations remained constant between the tenth and twelfth grades generally appeared to come from somewhat better families, achieved higher GPA's and perceived certain guidance services in a somewhat more favorable light.

Kohut and Rothney (1964) set out to determine whether intensively counseled students were more consistant than nonintensively counseled students in their vocational choices from the twelfth grade to ten years latter. This longitudinal study of the consistency of occupational choices of 321 Wisconsin high school graduates indicated that there was no overall significant difference between intensively counseled (experimental) and nonintensively counseled (control) students from the

time they were in their senior year in high school to their ten-year future choices given ten years after graduation. The longitudinal data presented here suggest that there is no ordered set of influences on vocational preferences. but that the order varies as the individual develops and circumstances change.

Additional studies by O'Hara and Tiedeman (1959) and Gribbons (1964) dealt with secondary school students' knowledge of their own interests, abilities and work values as compared to scores on standardized instruments measuring these respective traits. In both studies it was determined that the secondary school students' expressed self-concepts and the scores on the instruments became increasingly congruent as the students moved through the grades. These studies suggest that students, as they become older, were clarifying their vocational self-concepts.

Turner (1964), in a study of 2,000 seniors enrolled in 18 high schools in 1964, found what he termed evidence of unrealistic occupational aspirations of many students in that: (1) Of 188 possible occupational categories, 66.2 percent of the seniors selected professional and managerial occupations, although parental employment in professional and managerial occupations was low: 15 percent for fathers; 12.1 percent for mothers; (2) although 20 percent of all students on a national basis go to college, 72.5 percent of the respondents planned to continue their education; and (3) of 20 reasons students gave for the above choices, 66.7 percent were influenced by admiration for successful people in the occupation.

Montesano and Geist (1964) administered the Geist Picture Interest Inventory to 60 high school boys along with a form used to collect

statements about reasons for choice. Responses were assigned to vocationally relevant categories using criteria provided by expert judges. It was found that there was a discernible direction of change in occupational decision making with age. Older boys use interest less, abilities more, and cite occupational variables to a significantly greater degree than younger boys. Interest is a potent consideration in vocational decision making of both older boys and younger boys, but the older boys tend to qualify their interests. The findings suggest that tentative reliance may be placed upon the possibility of identifying steps in vocational development, but that attention must also be given to qualitative and intensity factors.

Gribbons and Lohnes (1965) inferred value hierarchies from the protocols of interviews conducted with 111 boys and girls in eighth, tenth and twelfth grades. The changes observed in these value hierarchies were analyzed over the five years of adolescence was shown to warrant further investigation of Ginzberg's theoretical position that values do not play an important role in early vocational development. The authors contend that the constancy indicates a maturity of self-concepts early in the eighth grade sufficient enough to justify close attention for counselors at that time, while shifts in values of some students testify to a healthy maturation during adolescence. Although some sex differentiation occurred in the typical hierarchies, it is contended that similarities in the data outweigh differences, and the boys and girls appear to be rather alike in their employment of vocational value categories.

Hill (1965), in a study of 602 ninth grade students in a suburban Philadelphia high school, reports: (1) that study of a course in

occupations helps students to make more stable and realistic vocational choices; (2) that the factor of intelligence seems directly related to the level of a student's realism of vocational preference; and (3) that as students progress through the schools from grade eight to eleven, there is a decided drop in those expecting to go into occupations which require four or more years of college education.

Flanagan and Cooley (1966), in a one year follow-up study of Project TALENT (a longitudinal study of a 1960 sample of approximately five percent of the high schools in this country, involving over 400,000 students in grades nine through twelve) concerning the career plans of students, reported that over two-thirds of secondary students change their career choices between the ninth grade and one year after high school. The authors went on to state that, when in high school, about three out of four boys planned careers which required college training, although, according to current statistics, only one in four high school boys can be expected to graduate from college. Therefore, it appears that at least half of the boys in high school had unrealistic career plans.

Although the number of girls planning careers in the professions, the physical sciences, and the social sciences was unreasonably large; it appeared to the authors that, in general, the girls in high school were somewhat more realistic in their career planning than were the boys.

The authors concluded that, although it is unnecessary that the student choose a specific career in high school, he must choose some broad field in which to prepare for his ultimate career. And, because the plans made by high school students have been shown to be unrealistic and unstable, the schools must develop better programs for helping

students understand themselves and the various roles for which they might prepare.

Astin (1967a) examined the patterns of career change observed in samples of subjects in varying ages and levels of educational attainment. The author reported that the pattern of occupational distribution shows consistent gains in the business and education groups, whereas the number of students aspiring to careers in science and engineering decreased.

The author suggests three alternative explanations in interpreting these observed patterns in career shifts. First, the career shifts reflect the maturational nature of career development. That is, a student perceives and interprets an occupational category or career differently at the different stages in his or her career development. Second, the career changes occur as a result of personal development and educational experience. As the student becomes aware of the realities about the skill and extensive training necessary to achieve in scientific or engineering careers, he or she shifts to more appropriate and realistic choices where there is a greater chance for success and rewards. And third, the consistent patterns of shifts observed can be explained on the basis of environmental and cultural influences determining career development. As in the case of medicine, dentistry, law and engineering, where the necessity of early commitment and highly specialized training may be discouraging factors that reduce the number of students aspiring to these careers.

Bowles and Slocum (1967) conducted a study of educational and occupational aspirations and expectations of high school juniors and seniors in 14 Washington state high schools in the 1965-66 school year. They found that many of these aspirations and expectations were unrealistic in

that nearly all students aspired and expected to graduate from high school and to get some kind of post-high school education. Over three-fourths (76.3 percent) of the respondents aspired to attend college or junior college and 73.8 percent expected to do so. Forty-nine and seven-tenths percent indicated that they wanted to graduate from college and 39.4 percent expected to do so.

Astin (1967b) attempted to deal directly with the more pragmatic questions of predicting and controlling career decisions during the high school years. This study, utilizing the Project Talent Data Bank was designed to access the career expectations of 650 male high school seniors on the basis of their personal characteristics when they were in the ninth grade and of selected environmental characteristics of the schools attended. The students measured interests and expressed career choice at the ninth grade level were the best predictors of career outcomes at the twelfth grade level. The discriminating power of the test battery improved by adding selected environmental characteristics of the high schools attended by students. The major occupational groups in this study could be characterized by the unique personality orientations of students aspiring to them.

McDaniels (1968) contended that youth are not too young to choose, only too poorly prepared to make choices. According to McDaniels, it is only when youth are left without any help that they seem to put into practice the theoretical positions growing out of the work of Ginzberg and Super. McDaniels felt that the main question that remains is how can a series of experiences from K-14 be developed in and out of the classroom, directly and indirectly carried out by counselors, that will still

protect the right of the individual to choose freely, yet put him in the best position to make vocational decisions and choices.

Astin (1968) examined a sample of 7,061 girls from the Project TALENT Data Bank. Changes in career plans occurring between the ninth grade and one year after high school were studied. Longitudinal changes for five career groups (Natural Sciences, Professions, Teaching, Office Work and Housewife) were examined as a function of selected aptitude and interest measures. Girls who changed differed from girls who maintained the same plans over time in each career group on most of the measures employed. There was a tendency for the brighter girls to change from initial careers in Office Work and Housewife more frequently than the less able girls, whereas those who shifted out of the career-oriented groups, Science, Professions, and Teaching were scholastically less capable than those who maintained the same plans over time.

The author concluded that the career changes that take place during the high school years result primarily from a greater self awareness and recognition by the students of the aptitudes and skills that are necessary to educational and occupational success. As girls mature, their vocational plans tend to become more realistic. Brighter girls tend to raise their occupational aspirations, whereas the scholastically less capable girls aspire to less intellectually demanding careers.

Bachman (1970) in a large scale study of tenth grade boys asked: "What sort of work do you think you might do for a living?" Of the respondents, 85 percent mentioned some specific occupation or occupational category. He found the boys' level of aspirations to be considerably higher than their fathers' occupations. Half of all the respondents

aspired to a professional or technical career. Some of the aspirations were unrealistically high. In a previous study, Bachman reported that aspirations among the non-college bound show a decline between tenth and twelfth grades; so by the end of high school the discrepancy between father's occupation and son's aspired occupation is not quite so great as that reported above. The author concludes that in spite of the unrealism noted above, the occupational aspirations reported by most tenth grade boys are not highly unrealistic. "The generation represented by these boys will surely attain higher occupational levels than their fathers, on the average; the advance of technology and greater opportunities for higher education will see to that" (p. 174).

Mondart and et al. (1970) conducted a study to identify the occupational and educational aspirations and expectations of Louisiana High School students and relate these aspirations and expectations to their background of experiences. The findings suggest that high school students develop strong occupational interests early, with at least tentative choices made before they reach the eleventh grade. However, occupational information provided in school has little influence on occupational choice, although there is evidence to show that such material is available. Student educational aspirations and expectations like those considered vocational, are influenced most by the home and friends, but many develop unrealistic aspirations for prestigious careers when work more appropriate to their abilities should be considered. It was recommended that schools provide early, organized and realistic information about career opportunities and that the curricular design should be made more flexible by providing more training options.

Smith and Jiloca (1971) identified a sample of 46 twelfth grade students (22 males and 24 females) and an expression of their idealistic and realistic occupational choices were obtained and compared. Conclusions were that twelfth grade boys and girls have similar educational aspirations, but different occupational aspirations. They appear to be capable of making a realistic occupational-educational commitment, and their educational aspirations are similar to their parents' but their occupational aspirations are quite different.

Summary

A summary of the literature reviewed reveals the following general findings and conclusions.

1. As students grow older they are clarifying their vocational self-concepts and, as they mature, their vocational plans tend to become more realistic (Ginzberg, 1952; Super, 1957; O'Hara and Tiedeman, 1959; Nelson, 1962; Gribbons, 1964; Montesano and Geist, 1964; Gribbons and Lohnes, 1965; Hill, 1965; Astin, 1967a; Astin, 1968).
2. The majority of students change their occupational choices during the high school years (Schmidt and Rothney, 1955; Rice, 1962; Hill, 1965; Flanagan and Cooley, 1966; Astin, 1968; Bachman, 1970).
3. All of this educational and occupational decision-making and choosing is going on with almost no effort to help the student develop any objective understanding of the world of work while still in school (Nelson, 1962; McDaniels, 1968; National

Advisory Council on Vocational Education, 1969; Marland, 1971; Evans, 1971).

4. Occupational information provided in the school has little influence on occupational choice, although there is evidence to show that such material is "available" (Mondart and et al., 1970).
5. Students occupational and educational aspirations are influenced most by the home and friends, and by admiration for successful people (Mondart and et al., 1970; Turner, 1964; Rice, 1962).
6. Many high school students develop unrealistically high educational and occupational aspirations for prestigeous careers when work more appropriate to their abilities should be considered (Turner, 1964; Flanagan and Cooley, 1966; Bowles and Slocum, 1967; Bachman; Mondart and et al., 1970).
7. Students are not too young in high school to choose, only too poorly prepared to make choices (McDaniels, 1968; National Advisory Council on Vocational Education, 1969; Marland, 1971; Evans, 1971).
8. The study of a course in occupations helps students to make more stable and realistic vocational choices (Hill, 1965).
9. Schools must develop better programs for helping students understand themselves and the various rolls for which they might prepare by providing experiences that will still protect the right of the individual to choose freely, yet put him in the best position to make occupational and educational choices and decisions (Super and Overstreet, 1960; Flanagan and Cooley,

1966; McDaniels, 1968; National Advisory Council on Vocational Education, 1969; Mondart and et al., 1970; Marland, 1971; Evans, 1971).

III

PROCEDURE

Population and Sample

In the Fall of 1968 the Department of Vocational Education at the Pennsylvania State University undertook a ten-year longitudinal study to identify the effects of the high school experience on youth and relate the knowledge to curriculum planning and vocational guidance.

Inputs into the development of students are being investigated and analyzed through this project; these inputs include both personal and environmental factors which effect student development. Because the impact of the physical environment can be very significant to the social development of students, the general information provided in this chapter was intended to create a better understanding of the factors affecting the student sample selected for study.

The population to which the results of this study may be generalized consists of American adolescents who could be described as typical of the dominant American culture. To the extent that one considers there to be no dominant American culture, but instead a collection of American subcultures, this study will, of course, generalize more to those subcultures which resemble the sample more closely. Furthermore, it is felt that the sample selected for study is as representative of those groups to whom we attempt to apply our theories of vocational development as any sample of its size which could be collected from one community setting.

The population from which the sample was obtained consists of the total ninth grade enrollment of the three public junior high schools in the city of Altoona, Pennsylvania, during the 1968-69 school year. Data were collected for all students in the 1972 graduating class beginning with those enrolled in ninth grade in 1969 and including any student who came into the sample before the class graduated in 1972. The parochial high school students in Altoona were not included in this investigation.

The Altoona school district has an approximate student population of 15,000 with the ninth grade enrollment during the 1968-69 school year consisting of approximately 1100 boys and girls. The school system is organized according to a six-three-three plan with one large high school and three smaller junior high schools. The educational offerings in the high schools are comprehensive and are housed in two large buildings at one location; one being the old high school and the other a new vocational-technical school which opened in the fall of 1970. The amount expended for instructional costs per student during the 1968-69 school year amounted to $622.01 which fell slightly below the state average for that year of $681.76 per student.

The city of Altoona has a population of approximately 67,000 and is located in west central Pennsylvania. Although the original economic base of the community relied heavily on the Pennsylvania Railroad shops, the city now has a fairly diversified economy. Rand McNally (1969) classifies the city as a principal business center serving a number of satellite communities. There are both large and small commercial and industrial concerns in the area and the school system draws students from all socio-economic backgrounds.

The ethnic makeup of Altoona represents most European nationalities; English, Scotch and Irish made up the majority of the early inhabitants followed by Germans and Italians. Approximately two percent of the population is non-white, with Blacks composing the majority of this group.

Altoona's economy has evolved from a railroading past due to its location on the eastern slope of the Allegheny Mountains. As a result of the decline in railroad industry, unemployment reached extreme proportions during the 50's causing a considerable labor surplus. The skilled labor force and good labor relations were instrumental in the community efforts to change the economic base to diversified manufacturing and industry. With this change, unemployment levels began to decline in 1961 and are presently reaching a point of full employment. The unemployment rate for 1968 averaged 4.3 percent.

Approximately 50 percent of the manufacturing employment in Altoona is in firms that are relatively insensitive to changes in the business cycle. This is important in the stability of the economy. This is far better than the period when Altoona's base was dominated by the railroad, a highly sensitive industry. Persons employed in manufacturing in the Altoona Standard Metropolitan Statistical Area increased by 7,900 between 1950 and 1969, a growth of 110 percent. This area has been largely responsible for the rapid growth of the entire economy.

Since 1963, the Altoona per capita and family income have been increasing at a rate greater than the national average. However, in 1969, for over 21,000 families in the work force, the median income of $8,105 was $1,595 below the average median for all American cities of comparable size.

Data were available for 1,063 students at the end of ninth grade, 923 at the end of the tenth grade, 767 at the end of the twelfth grade, and 601 for all three time periods. These 601 students made up the total sample involved and represent approximately 60 percent of the students who completed the ninth and entered the tenth grade, 65 percent of the students who completed the tenth and entered the eleventh grade, and 78 percent of the students who completed the twelfth grade. The sample is approximately equally divided as to sex.

Essential Data

Independent Variables

Since the focus of this study was on occupational aspirations, it followed naturally to include, as independent variables, questions designed to elicit the student's occupational choice. In order to establish a rationale for the use of certain questions as independent variables, previous studies on vocational development were reviewed. A number of studies reviewed converted a student's occupational choice to a measure of levels of aspiration such as Miller and Haller (1964) have suggested. Miller and Haller also point out that the question of occupational preference needs to be classified as to idealistic versus realistic choice. Following their suggestion, both questions were used in collecting this piece of information from the sample. The questions, "If it were possible for you to enter any occupation, what occupation would you most like to enter?" and "In reality, what occupation do you expect to enter after you complete all the education you have planned?" were selected for use in this study.

Since this study also focused on discovering any changes which take place in students' occupational aspirations over the high school years, it was natural to add the three levels of treatment and ask the questions at three different points in time, near the completion of each of the ninth, tenth and twelfth grades. (The questions asked in ninth and tenth grade varied slightly from those stated above.)

Thus, the independent variables are a combination of treatments provided by the experimenter (asking the two questions at three different points in time), by the natural maturation process, and by society (i.e., community, school, home, etc.).

Dependent Variable

The dependent or criterion variable for this study is the measures of students' occupational preferences as recorded near the completion of each of the ninth, tenth and twelfth grades.

Students responses to the questions, "If it were possible for you to enter any occupation, what occupation would you most like to enter?" and "In reality, what occupation do you expect to enter after you complete all the education you have planned?" were coded according to Roe's classification scheme as follows: 1) Professional and Managerial I (independent responsibility); 2) Professional and Managerial II (other); 3) Semiprofessional and Small Business; 4) Skilled; 5) Semiskilled; and 6) Unskilled.

The inter-rater reliability for Roe's occupational classification scheme was determined by computing the Pearson Product Moment Coefficient of Correlation between two raters. The occupational choices of

approximately 900 students were classified according to both field and level for both idealistic and realistic questions, in ninth and tenth grade, by two independent raters. Eight coefficients were computed and they ranged from .84 to .91. The obtained median correlation coefficient was .87 based on the field and level classifications of four occupational choices per student (O'Reilly, 1973).

Analysis

Two statistical methods were used for analysis of the data in this study: (1) the Analysis of Variance for Repeated Measures (ANOVRM); and (2) the t-test for dependent measures. The dependent formula for these tests was necessary since the questions deal with differences in the criterion variables that can be determined only through the use of repeated or related measures on the same subjects. Those subjects being the 601 students on whom data were available for all three time periods.

The Analysis of Variance for Repeated Measures was used to answer questions 1 and 2. The two basic assumptions which must be met in order to control the possibility of making an invalid decision when utilizing the ANOVRM are: (1) homogeneity of variances of all groups; and (2) homogeneity of correlation between each of the possible pairs of groups. The Box test for homogeneity of the variance-covariance matrix was employed to test these two assumptions and should yield a nonsignificant Chi-square value to justify the use of the pooled error term. However, since our sample size is large (601), and the same used for each measure, the dependent analysis of variance method used is fairly robust to violations of this assumption. Therefore, while some caution is necessary in

interpreting the results of the ANOVRM when homogeneity of variance-covariance is violated, for the most part, they can still be considered valid.

In answering question 3 the dependent t-test was used. This test is actually a special case of ANOVRM with only two groups being compared.

Descriptive data are reported for all of the questions. This descriptive data, which is generated in order to perform the analysis for this study, may be useful to those who wish to undertake analysis not conducted in this study.

A probability of .05 was the level of significance at which decisions to retain or reject the tested null hypothesis were made in all cases in this study.

IV

FINDINGS

Introduction

In this chapter the findings for each of the three questions of the study are presented separately, in tabular form, and discussed to avoid possible misinterpretation. The implications and the conclusions reached from the study will be discussed in Chapter V.

Tables, for the three questions involved, present the Analysis of Variance for Repeated Measures (ANOVRM) and the descriptive data which is necessary to carry out the statistical analysis. Also reported with the tables is the Box Test for Homogeneity of the variance and covariance matrices.

To test the research questions stated on page 13, the following null hypotheses are offered.

Question #1 - Stated as a Null Hypothesis

The mean levels of idealistic occupational aspiration, when measured near the end of the ninth, tenth and twelfth grades respectively, are the same.

$$Ho : MI_9 = MI_{10} = MI_{12}$$

In this case, the null hypothesis was retained. As presented in Table 1, the data show that there was no significant change in the mean level of idealistic occupational aspirations between the measurements taken near the end of the ninth, tenth and twelfth grades. This result

Table 1. Analysis of Variance and Descriptive Data for the Changes in Idealistic Occupational Aspiration Level as Measured Near the End of the Ninth, Tenth and Twelfth Grades

Analysis of Variance for Repeated Measures[a]

Source of Variance	Sum of Squares	Mean Squares	DF	F-Ratio	Prob.
9th, 10th & 12th grades	0.9861	0.4931	2	1.099	0.334
Error	538.35	0.4486	1200		

Descriptive Data

Data Type	Grade Level		
	Ninth	Tenth	Twelfth
Mean	3.01	3.02	3.06
Standard Deviation	1.00	1.00	1.03

[a] The Box test for homogeneity of the covariance matrix of independent groups indicates heterogeneity of variance and correlation at the .05 level of significance. This heterogeneity probably results from unequal correlations rather than unequal variances.

means that the level of student's idealistic occupational aspirations is not significantly influenced by the passage of time and learning over the high school years.

Question #2 - Stated as a Null Hypothesis

The mean levels of realistic occupational aspiration, when measured near the end of the ninth, tenth and twelfth grades respectively, are the same.

$$Ho : MR_9 = MR_{10} = MR_{12}$$

In the case of Question #2, the null hypothesis was rejected at the .05 level of significance. As can be seen in Table 2, the data show a significant change in the mean levels of realistic occupational aspiration between the measurements taken near the end of the ninth, tenth and twelfth grades. Although all three means are within the same level of Roe's occupational classification scheme (level 3), they do show a significant change in the form of a downward trend from level 3 (semiprofessional and small business) toward level 4 (skilled) as the students progress from the ninth through the twelfth grades. The results, in this case, show that students' realistic occupational aspirations are significantly influenced by the passage of time and learning over the high school years.

Question #3 - Stated as a Null Hypothesis

The mean level of idealistic occupational aspirations is the same as the mean level of realistic occupational aspirations when measured near the end of the ninth, tenth and twelfth grades respectively.

$$Ho : MI_9 = MR_9$$

$$Ho : MI_{10} = MR_{10}$$

$$Ho : MI_{12} = MR_{12}$$

In this case, all three null hypotheses were rejected at the .05 level of significance. As presented in Table 3, the data show a significant difference between the mean level of idealistic occupational aspirations, and the mean level of realistic occupational aspirations as measured near the end of each of the ninth, tenth and twelfth grades. This means that there is a significant difference between the level of an occupational choice based upon the psychological preferences or desires that high school students have regarding work statuses (idealistic choice), and the level of an occupational choice that they make based upon their more or less accurate assessment of the external, limiting work environment, along with their abilities and values (realistic choice).

Summary

A gradual change in the Level of Occupational Aspirations of students with the passage of time and learning over the high school years is evident from the results of this study. This change is seen in the steadily increasing difference between what the student sees as idealistically desirable versus realistically probable for him in the world of work. It can be seen that the idealistic is higher than the realistic occupational aspiration on Roe's classification scheme of level (considering level 1 as highest), and that it does not

Table 2. Analysis of Variance and Descriptive Data for the Changes in Realistic Occupational Aspiration Level as Measured Near the End of the Ninth, Tenth and Twelfth Grades

Analysis of Variance for Repeated Measures[a]

Source of Variance	Sum of Squares	Mean Squares	DF	F-Ratio	Prob.
9th, 10th & 12th grades	6.6367	3.3183	2	9.063	0.001
Error	439.36	0.3661	1200		

Descriptive Data

Data Type	Grade Level		
	Ninth	Tenth	Twelfth
Mean	3.13	3.19	3.28
Standard Deviation	0.99	0.98	1.02

[a] The Box test for homogeneity of the covariance matrix of independent groups indicates heterogeneity of variance and correlation at the .05 level of significance. This heterogeneity probably results from unequal correlations rather than unequal variances.

Table 3. Analysis of Variance and Descriptive Data for the Difference Between Idealistic and Realistic Occupational Aspirations as Measured Near the End of the Ninth, Tenth and Twelfth Grades

Analysis of Variance for Repeated Measures[a]

Source of Variance	Sum of Squares	Mean Squares	DF	F-Ratio	Prob.
Ninth Grade	4.4334	4.4334	1	23.736	0.001
Error	112.07	0.1868	600		
Tenth Grade	8.8261	8.8261	1	39.915	0.001
Error	132.67	0.2211	600		
Twelfth Grade	13.844	13.844	1	47.834	0.001
Error	173.65	0.2894	600		

Descriptive Data

Data Type	Grade Level		
	Ninth	Tenth	Twelfth
Idealistic			
Mean	3.01	3.02	3.06
Standard Deviation	1.00	1.00	1.03
Realistic			
Mean	3.13	3.19	3.28
Standard Deviation	0.99	0.98	1.02
Correlation I-R	.81	.78	.73

[a] The Box test for homogeneity of the covariance matrix of independent groups indicates homogeneity of variance and correlation for each test at the .05 level of significance.

appreciably change over the high school years. On the other hand, the realistic occupational aspiration changes steadily downward from the end of the ninth through the twelfth grade. Thus, we see this changing relationship between the students' idealistic and realistic occupational choices, as they progress through high school, as one of steady divergence, with the idealistic choices remaining relatively constant and the realistic choices changing steadily downward.

Although the Level of Occupational Aspirations, both idealistic and realistic, of the sample group remained within Roe's occupational level 3 throughout the high school experience, the fact that significant change does take place in the level of realistic choice is an important indication of students vocational development over this time period.

V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

Introduction

As specialized knowledge has become more and more a requisite for employment, education has been put under increasing pressure to be a more effective link between man and knowledge, and specifically between man and that knowledge needed for participation in the nation's economic life. Throughout the nation, people are questioning the logic and relevance of what is being taught their youngsters, particularly when considered in the light of the sophisticated, complex, and rapidly changing career situations they will face upon graduation from high school or college. In typical high schools throughout the nation, young people complain that curriculums are dull and irrelevant, and that their education is not opening pathways to a fulfilling adulthood.

It is a rare high school that equips all it's students to make a choice upon graduation of either entering the job market with a salable skill or of continuing their education. Too often the graduate has neither option, let alone the opportunity to select one or the other. Because of this, steps must be taken to make public education more relevant according to today's needs and the needs of the future by restructuring the entire public school program around the theme of career development.

Because a large part of a youth's future happiness is predicated upon job satisfaction, it is also essential that this career development be focused around a suitable occupational choice. Miller and Haller (1964) presented the concept of Level of Occupational Aspirations (LOA) as the area of the occupational prestige hierarchy which an individual views as a goal, bounded by what he views as realistically probable versus idealistically desirable for him. Flores (1966) reported that the LOA is possibly one of the first stable and realistic occupational considerations formed in young people. He suggested that counselors working with persons in this 14 and over age group could contribute to the group's occupational development by helping them acknowledge their Level of Occupational Aspirations, both idealistic and realistic, and to consider specific occupations in light of these LOA's.

Longitudinal and more extensive studies tracing the development of LOA and the degree to which it is influenced by different variables during the adolescent years would yield more information on the development of LOA, and would yield results in which more confidence could be placed concerning the question of how greatly the LOA of individual young people changes during adolescence.

Statement of the Problem

In the Fall of 1968, the Department of Vocational Education at The Pennsylvania State University initiated the Vocational Development Study (VDS), a ten-year longitudinal investigation to identify the effects of the senior high school experience upon the development of youth (Impellitteri and Kapes, 1971). As a result of that study, data have

been collected relating to the Level of Occupational Aspirations, both idealistic and realistic, of a group of high school boys and girls. This study was part of that continuing research effort to examine the vocational development of youth. More specifically, this study was an attempt to determine what effect, if any, the passage of time and learning has upon the development of the Level of Occupational Aspirations, both idealistic and realistic, over the high school years. Formally stated, the research questions are:

1. Is the mean idealistic occupational aspiration at the same level when measured near the completion of the ninth, tenth and twelfth grades respectively?

$$Ho : MI_9 = MI_{10} = MI_{12}$$

2. Is the mean realistic occupational aspiration at the same level when measured near the completion of the ninth, tenth and twelfth grades respectively?

$$Ho : MR_9 = MR_{10} = MR_{12}$$

3. Is the mean idealistic occupational aspiration at the same level as the mean realistic occupational aspiration when measured near the completion of the ninth, tenth and twelfth grades respectively?

$$Ho : MI_9 = MR_9$$

$$Ho : MI_{10} = MR_{10}$$

$$Ho : MI_{12} = MR_{12}$$

Procedure

The population from which the sample for this study was obtained consists of the total ninth grade enrollment of the three public junior

high schools in the city of Altoona, Pennsylvania, during the 1968-69 school year. Data were collected for all students in the 1972 graduating class beginning with those enrolled in ninth grade in 1969 and included any student who came into the sample before the class graduated in 1972. The parochial high school students were not included in this investigation.

The students occupational preferences were recorded near the completion of the ninth, tenth and twelfth grades. Students responses to the questions, "If it were possible for you to enter any occupation, what occupation would you most like to enter?" and "In reality, what occupation do you expect to enter after you complete all the education you have planned?" were coded according to Roe's classification system of occupational level.

Thus, the independent variables are a combination of treatments provided by the experimenter (asking the two questions at three different points in time), by the natural maturation of the students, and by society (i.e. community, school, home, etc.). The dependent or criterion variables for this study are the measures of student's occupational preferences as measured by the two questions asked at the three separate times over the high school years.

As for the total sample involved in this study, data were available for 1,063 students at the end of the ninth grade, 923 at the end of the tenth grade, 767 at the end of the twelfth grade, and only 601 for all three periods. These 601 students comprise the sample for this study.

Two statistical methods were used for analysis of the data in this study: (1) the Analysis of Variance for Repeated Measures (ANOVRM); and

(2) the t-test for dependent measures. The dependent formula for these tests is necessary since the questions deal with differences in the criterion variables that can be determined only through the use of repeated or related measures on the same subjects.

Findings

In the case of Question #1, the null hypothesis (Ho : $MI_9 = MI_{10} = MI_{12}$) was retained (Prob. = 0.334). The data show that there was no significant change in the mean level of idealistic occupational aspirations as measured near the end of the ninth, tenth and twelfth grades (see Table 1 on page 36).

The null hypothesis in Question #2 (Ho : $MR_9 = MR_{10} = MR_{12}$) was rejected (Prob. = 0.001). The data show a significant change in the mean level of realistic occupational aspirations between measurements taken near the end of the ninth, tenth and twelfth grades (see Table 2 on page 39).

As for the case of Question #3, the null hypotheses for all three parts of this question (Ho : $MI_9 = MR_9$, Ho : $MI_{10} = MR_{10}$, and Ho : $MI_{12} = MR_{12}$) were rejected (P = 0.001 in each case). The data show a significant difference between the mean idealistic occupational aspiration level and the mean realistic occupational aspiration level at all three time periods measured (see Table 3 on page 40).

Therefore, there is a gradual change in the Level of Occupational Aspirations of students with the passage of time and learning over the high school years. This change is seen in the steadily increasing difference between what the student sees as idealistically desirable versus

realistically probable for him in the world of work. It can be seen that the idealistic is higher than the realistic occupational aspiration on Roe's classification scheme of level (considering level 1 as highest), and that it does not appreciably change over the high school years. On the other hand, the realistic occupational aspiration changes steadily downward from the end of the ninth through the twelfth grade. Thus, we see this changing relationship between the students' idealistic and realistic occupational choices, as they progress through high school, as one of steady divergence, with the idealistic choices remaining relatively constant and the realistic choices changing steadily downward.

Conclusions

Given the picture of gradual, but steady change in the Level of Occupational Aspirations of boys and girls over the high school years brought about by the steadily diverging relationship between their idealistic and realistic occupational choices, with the idealistic choices remaining relatively constant and the realistic choices changing steadily downward, we must conclude that reliance may be placed upon the theories of occupational choice and vocational development as presented by Ginzberg (1952) and Super (1957). Both of these theories identify periods or stages in the vocational development process, and both Ginzberg and Super believe that a reality factor and consideration of self was developing and entering into the occupational choices of 14 and 15 year old adolescents. As we have seen in the findings of this study, the only significant change that took place in the students' Level of Occupational Aspirations over the high school years was one precipitated

by their greater consideration of reality. We saw a gradual drop in their mean realistic occupational aspiration level reflected by their changing response to the question, "In reality, what occupation do you expect to enter after you complete all the education you have planned?" We must conclude that this change was brought about through a consideration of reality on the part of the students as they attempted to work out a compromise between their interests, capacities and values, and their more or less accurate assessment of the external, limiting work environment.

Other related research studies with findings and conclusions that seem to be strongly supported by this study are those of Montesano and Geist (1964), and Astin (1968). Montesano and Geist found that there was a discernible direction of change in occupational decision making with age, and that older boys use interest less and abilities more. The authors concluded that tentative reliance may be placed upon the possibility of identifying steps in vocational development, but that attention must also be given to qualitative and intensity factors. Astin (1968) examined a sample of 7,061 girls from the Project TALENT Data Bank. Changes in career plans occurring between the ninth grade and one year after high school were studied. The author concluded that the career changes that take place during the high school years result primarily from a greater self awareness and recognition by the students of the aptitudes and skills that are necessary to educational and occupational success. As girls mature, their vocational plans tend to become more realistic. Brighter girls tend to raise their occupational aspirations, whereas the scholastically less capable girls aspire to less intellectually demanding careers.

Super and Overstreet (1960) reporting the findings of a study of the vocational maturity of ninth grade boys based on the Career Patterns Study stated that, of the 105 boys sampled, 67 or: "A majority of boys in the core group, then, tended to have little, if any, discrepancy between the levels of the occupations to which they aspired and those which they expected to enter" (p. 87). On the basis of this and other findings they concluded that a substantial number of boys were not yet ready, in the ninth grade, to decide on a future occupation. The authors suggest that adolescents at this stage need help to develop better self-understanding and a broader knowledge of the world of work. Carrying this same reasoning forward and applying it to our study, we conclude that the significant differences between the mean levels of idealistic and realistic occupational aspiration, found near the end of the ninth and steadily increasing through the twelfth grade, indicate the students growing awareness of self in relation to the world of work and their growing consideration of reality. We also conclude, however, that because of this instability many students are not able, nor should they be expected, to make stable and specific occupational choices in ninth grade. Thus, we further conclude that, for the majority of students, educational preparation concentrating on a specific occupational choice during high school is unrealistic; and that attention would more profitably be placed upon preparation in the more general skills necessary for entry into a broad occupational area or cluster of related occupations, or for higher education.

This conclusion supports that of Flanagan and Cooley (1966) in their one year follow-up study of project talent. They concluded that,

although it is unnecessary that the student choose a specific career in high school, he must choose some broad field in which to prepare for his ultimate career. Also, because the plans made by high school students have been shown to be unrealistic and unstable, the schools must develop better programs for helping students understand themselves and the various roles for which they might prepare.

Roe's classification scheme has been found to be a useful and reliable method of classifying occupations by level. The classification of students occupational preferences into idealistic versus realistic choices (as recommended by Miller and Haller, 1964) has proved to be of extreme usefulness to the present study. Only in this way was it possible for us to clarify the determinant of the changing occupational aspirations of high school youth as being their growing consideration of reality. Another value may stem from the possibility that, by asking both questions, we may have forced the ninth-grader to consider, for the first time, the notion that there was a good possibility that a difference existed between the occupation he aspired to as idealistically desirable for him and the one he could realistically hope to achieve.

As important as such occupational aspiration questions are to research in vocational development, just asking them is not enough. Given our present educational system, which does not adequately prepare students to make intelligent occupational decisions, we are unable to determine whether, in fact, high school students are too young to make stable and realistic occupational choices or only too poorly prepared to choose.

Recommendations

Based upon the findings and conclusions drawn from this study, the following general recommendations pertinent to education, and recommendations for future research are suggested here.

Recommendations Pertinent to Education

1. It is essential that public schools restructure their programs around the theme of career development and provide students with early, organized, and realistic information about career opportunities. It is not a function of the school to force an early decision, but the school must provide students with sufficient exploratory experiences so that they will be able to make intelligent and realistic decisions about themselves in relation to available career opportunities.
2. As a basic necessity for the success of our career educational programs, we must overcome the national sin of intellectual snobbery. No single influence has such a tremendously damaging effect upon the educational and career decisions of our high school youth as does this very prevalent national attitude that vocational education is designed for somebody else's children, and that the only good education is an education capped by four years of college. To combat this attitude, all educational experiences, curriculum, instruction, and counseling should be geared to preparation for economic independence and an appreciation for the dignity of work at all levels.
3. Our schools must provide far more flexible training and career options so that every student, upon leaving high school, will have

the opportunity to choose between entering the world of work with a saleable skill or of continuing on to further education as fits his particular abilities and ambitions. In view of our rapidly changing technology and world of work and the instability and unrealism of many ninth grade vocational aspirations, we can no longer accept the idea that a student must make his career choice at age 14.

4. It is important here for the reader to understand that the authors view the shortcomings and problems within our present educational system as being the result of societies deficient, yet conventionally approved pathways for achieving socially valued goals. We, therefore, look upon society and our present national attitudes and values as the major targets for change, and do not intend to imply that the fault lies entirely with our educators and schools.

Recommendations for Further Research

1. More studies are needed to determine the effects of a concentrated program of orientation to careers (covering the requirements, duties, conditions of work, opportunities, financial rewards, and other pertinent personal information) upon the Level of Occupational Aspirations of ninth grade boys and girls. Comparing measurements prior to and upon completion of such a course would give much evidence on it's value in the development of realestic aspiration during adolescence. It would also be interesting to see if such knowledge would increase the stability of the LOA of those students over the high school years.

2. Follow-up studies comparing the LOA of students during high school with their LOA several years after graduation would shed additional light on the realistic nature of the students' LOA during high school.
3. Further studies are needed to determine what influence, if any, geographic location (rural vs. urban, etc.), ethnic background, socio-economic status, sex, education, occupation of father and mother, and other similar variables have upon the development of students Level of Occupational Aspirations.
4. The use of questions dealing with idealistic and realistic aspirations as conceptually different choice phenomena should be studied further and their differences should be considered in all future studies dealing with occupational aspiration.

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